



# Robot Drummer (of Wahappen rock and roll band)

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## SUMMARY

Watch the videos:

The drum machine is a simple MIDI device that has a "MIDI out" connection. This sends a MIDI signal, which is made of 128 different "notes", to a MIDI decoder (HIGHLY LIQUID MSA-R). The MSA is capable of turning 8 of the MIDI notes into "on/off" switches. So I made a drum beat and assigned the kick drum=#1, snare=#2, rack tom=#3... then I built 8 robot arms with solenoid motors and attached them to the MSA. When the drum machine plays a kick it sends MIDI note #1 to the MSA which closes one of its relays completing a 24Vdc circuit for 50 milliseconds (ms). This pulse length is adjustable. This is long enough for the solenoid to energize and close, causing the drum to be struck, and then release, the same way you hit a drum with a stick. I should note that we added a Darlington transistor circuit outside the MSA so we could use bigger solenoids that draw more amps without damaging the MSA. The transistors are all TIP 122's. I got some great help to figure this out and now I am going to make more and better robots this summer.

I am in Brooklyn. Come visit our shop, please! We are a two-piece band about 6 months old. This is our first robot drummer. I am working on a second now using pneumatics and flame throwers. I want to find people in Brooklyn to make with.

everyone loves fluorescent paint

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